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Subject: Duwamish Food Web Modeling meetings

Duwamish Team -

Just a reminder of our upcoming conference calls/meetings re: food web modeling for the Duwamish Phase 2 RI. There has been a slight agenda change. We in Seattle will start the meeting/call on the 20th at 9:00, but Lawrence Burkhard from EPA's Duluth lab and Todd Bridges from WES will join us from 10:00 - 11:00 PST.

March 20, 9:00 - 11:00 PST, EPA 15 Kenai - Internal meeting. Call-in number is: (b) (6) .

March 25, 9:30 - 12:30 PST at Port of Seattle - Meeting with PRPs.

Here is the PRP's proposed agenda for the March 25 meeting, which we can discuss at our March 20 meeting.

AGENDA FOR FOOD WEB MODELING MEETING, MARCH 25, 2003

Model Objective
- Key question for model to address: Establish relationship between concentrations of hydrophobic organic compound (e.g., PCB) concentrations in fish tissues (i.e., English sole and sculpin) and sediment
- Model will not address: Relationships between chemical concentrations in fish and upper-trophic level receptors, such as otter and humans. These relationships will be addressed through standard risk dose equations.

LDW System
- Five mile, engineered estuarine waterway with large tidal range and low bedload
- Sediment contamination believed to be largely historic
- Fish to model are English sole (consumes benthic invertebrates; home range unknown but may be similar to size of site) and Pacific Staghorn sculpin (consumes both benthic invertebrates and fish; home range unknown but likely smaller than size of overall site)
- Available data: 965 surface sediment samples and fewer tissue samples (several fish, benthic invertebrates, crab, mussels). Water quality has been extensively modeled.

Food Web Model Options
- Models used at other Superfund PCB sites
- Most likely options include steady state model (e.g., Gobas 1993) or an empirically based model (using BSAFs for benthic
invertebrate and tissue ratios to relate concentrations in benthic invertebrates and fish).
- Other options? Pros and cons.

Critical Issues with Model
- What input data are required for each approach?
- What are the most sensitive parameters for each approach?
- How should the water component of a model such as Gobas (1993) be addressed? Options include setting Cw = 0 or using King County Water Quality Assessment data. Run both ways?
- What benthic invertebrate tissue data are needed? Will market basket data (i.e., composite of benthic invertebrates according to abundance at sites) be sufficient?

- What approaches are preferred to address uncertainties in fish home ranges?
- Are stomach content data needed for English sole or sculpin? LDWG believes EPA is collecting these data for sculpin as a function of fish size.
- Should the food web model be run on an Aroclors vs. congener-specific basis? What are the pros and cons of each approach relative to final uncertainties?

Influence on Phase 2
- How will the modeling approach selected influence the final sediment and tissue sampling plans in the Phase 2 work plan?

Feel free to give me a call if you have any questions.

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